Remarks

Claims 7-22 were pending in the subject application. Accordingly, claims 7-22 are currently before the Examiner for consideration. Favorable consideration of the pending claims is respectfully requested.

The applicant and the applicant's representative wish to thank Examiner Sisson for the courtesy of the telephonic interview conducted with the undersigned and Mr. John Jappy on January 31, 2005, regarding the rejections under 35 U.S.C. §112, first paragraph. The remarks and amendments set forth herein are consistent with the substance of the interview and are believed to address the outstanding issues as discussed during the interview.

Submitted herewith for the Examiner's consideration is a supplemental Information Disclosure Statement (IDS), including form PTO/SB/08. The applicant respectfully requests that the publications listed on form PTO/SB/08 be considered by the Examiner, and that such consideration be made of record in the subject application.

Claims 7-22 have been rejected under 35 U.S.C. §112, first paragraph, as lacking sufficient written description. The specification provides an adequate written description of the claimed subject matter, conveying to one of ordinary skill in the art that the applicant was in possession of the claimed invention at the time the application was filed.

Claims 7-22 are supported by the specification as originally filed. Page 1, lines 9-20, and page 2, lines 21-25, of the specification, and claims 1-5 as originally filed, describe the method of claims 7-20 and 22. At page 1, lines 14-20, the subject specification states:

> according to the present invention, a method for sequencing a polynucleotide comprises the steps of: (i) reacting a target polynucleotide with a helicase/primase enzyme, and the source of NTP, under conditions suitable for helicase activity (i.e. DNA unwinding utilizing the energy from NTP hydrolysis); and (ii) detecting the separation and/or proximity of a specific base or base pair via the action of the helicase, by measuring radiation.

Page 2, lines 21-25, of the subject specification, further teaches that

> the present method for sequencing a polynucleotide involves the analysis of the conformational/kinetic interaction between a helicase enzyme and a target polynucleotide. Measurement of conformational/kinetic interaction is carried out by monitoring the changes in or absorption of electromagnetic or other radiation occurs if the reaction proceeds.

Written description of the subject matter of claims 8-12 and 15-19 can be found, for example, in claims 2-4 as originally filed, and page 4, lines 6-7, lines 16-21, and lines 25-33, of the subject specification. Written description of the subject matter of claims 13 and 20 can be found, for example, at page 4, lines 22-24, and page 5, lines 1-24, of the specification, and claim 5 as originally filed. Written description of the subject matter of claim 21, drawn to a sensor chip, can be found, for example, at page 4, lines 22-24, of the specification, and claim 6 as originally filed. Claim 6, as originally filed, recites "a sensor chip comprising a helicase/primase enzyme immobilized thereon". The applicant presumes that the "added limitations or elements" referred to by the Examiner in the Interview Summary dated February 3, 2005 is the "optically transparent material" and "reflective film" recited in claim 21. As noted on page 3 of the Interview Agenda provided by the undersigned, page 4, lines 22-24, of the subject specification describes the chip of claim 21. "Suitable sensor chips are known in the art. Typically, they comprise an optically transparent material, e.g., glass, and a thin reflective film, e.g., silver or gold" (page 4, lines 22-23, of the specification). The applicant respectfully directs the Examiner's attention to page 6, lines 10-13, of the Amendment submitted to the Patent Office on June 4, 2003. The same portion of the specification was cited by the applicant for the amendment to claim 21. Thus, each claim and each claim limitation is supported in the originally filed specification.

The subject specification provides relevant identifying characteristics sufficient to describe the claimed invention in such full, clear, concise, and exact terms that one of ordinary skill in the art would recognize that the applicant was in possession of the claimed invention. The Patent Office has the initial burden of presenting evidence or reasoning to explain why persons of ordinary skill in the art would not recognize in the original disclosure a description of the invention defined by the claims. *In re Wertheim*, 541 F.2d 257, 263; 191 USPQ 90, 97 (CCPA 1976). The applicant submits that the Examiner has not introduced sufficient evidence or technical reasoning to shift the burden of going forward with contrary evidence to the applicant. The mere fact that various publications are cited within the specification without the content of those publications being incorporated by reference does not suggest that the claimed invention is not sufficiently described and enabled as required under 35 U.S.C. §112, first paragraph. Incorporation by reference is a convention by which an applicant, in the interest of economy of time and space, may incorporate certain types of

documents by specific reference to such sources within the application. However, it is well settled that the specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public. *In re Buchner*, 929 F.2d 660, 661; 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384; 231 USPQ 81, 94 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987); *and Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1463; 221 USPQ 481, 489 (Fed. Cir. 1984). Furthermore, contrary to the assertion made at page 3, paragraph 4, of the outstanding Office Action, the applicant can rely upon the disclosures of such publications for fulfillment of the requirements under 35 U.S.C. §112, first paragraph. The analysis of whether the specification complies with the written description requirement calls for the Examiner to compare the scope of the claim with the scope of the description to determine whether the applicant has demonstrated possession of the claimed invention. Such a review is conducted from the standpoint of one of ordinary skill in the art at the time the application was filed (*Wang Labs. V. Toshiba Corp.*, 993 F2d. 858, 865; 26 USPQ2d 1767, 1774 (Fed. Cir. 1993)) and should include a determination of the field of the invention and the level of skill and knowledge in the art. Indeed, there is generally an inverse correlation between the level of skill and knowledge in the art and the specificity of disclosure necessary to satisfy the written description requirement (see MPEP §2163 IIA2). Thus, publications can be relied upon to establish whether an art is mature and what was known to those skilled in the art at the time the application was filed. "In most technologies which are mature, and wherein the knowledge and level of skill in the art is high, a written description question should not be raised for original claims even if the specification discloses only a method of making the invention and the function of the invention" (see MPEP §2163 IIA3(a)(i)).

As taught at page 1, lines 9-13, of the subject specification, the present invention is based on the realization that the measurement of radiation can be used to detect a conformational and/or mass change in a helicase and/or primase that occurs when these proteins unwind double-stranded DNA into single-stranded DNA. The polynucleotide sequencing method of the invention involves the analysis of the conformational/kinetic interaction between the helicase enzyme and a target polynucleotide. Measurement of conformational/kinetic interaction is carried out by monitoring the changes in absorption of electromagnetic or other radiation that occurs if the reaction proceeds (see

page 2, lines 21-25, of the subject specification). Surface plasmon resonance (SPR) is one technique by which a change in radiation or absorption of radiation can be measured. (see page 1, lines 32-33, and page 4, line 16, of the subject specification).

An Example is provided at pages 6-8 of the subject specification. Page 6, lines 21-34, and page 7, lines 1-24, of the specification describe materials and methods used for carrying out the exemplified DNA sequencing that is described in detail at page 7, lines 25-34, and page 8, lines 1-15, of the subject specification. In the Example, page 6, lines 21-22 of the specification indicate that a modified BIAcore 2000 system was utilized, along with a CM5 research grade sensor chip (BIAcore AB, Uppsala, Sweden) as the optical sensor surface. The BIAcore system and CM5 sensor chip were commercially available at the time the application was filed. A copy of the BIAcore 2005 Catalog is submitted with the Information Disclosure Statement that accompanies this Response. The BIAcore 2000 system and CM5 sensor chip are briefly described at pages 9 and 14 of the Catalog, respectively. Using a miniaturized channel flow system, the BIAcore 2000 delivers interactants in solution to a molecule immobilized on a sensor chip. Binding and disassociation between the immobilized molecule and analytes flowing across its surface are detected using SPR. The SPR signal is continuously recorded in a sensorgram. Methods for making and using a sensing surface (such as a CM5 sensor chip) with an immobilized ligand and SPR equipment to monitor biomolecular interactions were known at the time the application was filed. A copy of WO 90/05303 (Bergstrom *et al.*) was submitted to the Patent Office with an Information Disclosure Statement on June 4, 2003. See, for example, page 1, lines 11-33, and pages 2-3, of WO 90/05303. Again, the subject invention is based on the realization that the measurement of radiation can be used to detect a conformational and/or mass change in a helicase and/or primase that occurs when these proteins unwind double-stranded DNA into single-stranded DNA.

At page 6, lines 26-27, the subject specification cites Bird *et al.* (*Nucleic Acids Res.*, 1998, 26:2686-2693) for purification of PcrA helicase using hydrophobic interaction chromatography on heparin-Sepharose. A copy of the Bird *et al.* publication is submitted with the Information Disclosure Statement that accompanies this Response. As taught at page 2, lines 29-33, and page 3, lines 1-34, of the subject specification, helicases and methods for their isolation have been known for over twenty years and PcrA helicase is but one example that may be used in the invention. One

skilled in the art can readily visualize and recognize members of the recited class of enzymes. Thus, the subject specification provides a description of suitable enzymes, and methods for sequencing a polynucleotide using the enzymes, permitting a person of ordinary skill in the art to clearly recognize that the applicant had possession of the claimed invention.

At page 6, lines 33-34, the subject specification indicates that immobilization of the helicase was carried out according to the method of Jonsson *et al.* (*Biotechniques*, 1991, 11:620-627). A copy of the Jonsson *et al.* publication is submitted with the Information Disclosure Statement that accompanies this Response. Details regarding the immobilization of the helicase enzyme on the chip, including the volumes and concentrations of reactants that were utilized, are provided at page 7, lines 1-10, of the subject specification. Advantages of immobilization are described at page 5, lines 1-16, of the specification. As taught by the subject specification, immobilization may be carried out using standard procedures known in the art.

> In particular, immobilization using standard amine coupling procedures may be used, with attachment of ligand-associated amines to, say, a dextran or N-hydroxysuccinimide ester-activated surface. In a preferred embodiment of the invention, the helicase is immobilized onto a SPR sensor chip surface where changes in the refractive index may be measured. Examples of procedures used to immobilize biomolecules to optical sensors are disclosed in EP-A-0589867, and Lofas et al., Biosens. Bioelectron. (1995) 10:813-822. Page 5, lines 18-24, of the subject specification.

Ligand immobilization through amine coupling is a well known procedure that links primary amine groups in the ligand to derivatized carboxyl groups on the sensor chip surface. However, other techniques may be used to immobilize the enzyme, such as those disclosed in EP-A-0589867 and Lofas *et al.* (*Biosens. Bioelectron.*, 1995, 10:813-822), copies of which are submitted with the Information Disclosure Statement that accompanies this Response. Thus, the subject specification provides a description of the immobilized enzyme, and methods for sequencing a polynucleotide using the immobilized enzyme, permitting a person of ordinary skill in the art to clearly recognize that the applicant had possession of these aspects of the claimed invention.

At page 7, lines 26-28, the subject specification indicates that the DNA sequencing in the Example was conducted by the method described in WO-A-99/05315, which is of record, using the apparatus shown there in Figure 1, but using only one focusing assembly for pulsing monochromatic

light into the cell. Figure 1 of WO-A-99/05315 is a schematic illustration of polynucleotide sequence analysis using surface plasmon resonance (SPR) spectroscopy and a polymerase enzyme, and shows an SPR sensing system and fluidic cell (see page 14, lines 23-27, and page 15, lines 1-17, of WO-A-99/05315). Contrary to paragraph 5 of the Office Action, further description of the exemplified sequencing method is provided in the subsequent paragraphs of pages 7 and 8 of the subject specification. Step (ii) of claims 7, 14, and 22 of the subject application recites detecting the interaction between the enzyme and the nucleotide on the polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, radiation that occurs during the interaction. As indicated at page 1, lines 28-33, and page 4, lines 16-21, of the subject specification, SPR is one technique by which a change in radiation or absorption of radiation can be measured. SPR measures the properties of a solution by detecting differences in refractive index between the bulk phase of the solution and the evanescent wave region. Incident monochromatic light is reflected at a specific angle of a solid optical surface (such as a sensor chip) on the opposite side of the sample under study. The light extends into the sample for a short distance and is affected by an interaction at the surface. Experimental set ups for SPR, including SPR sensing systems and fluidic cells are well known in the art. Any modifications to established procedures that were made by the applicant are clearly described in the Example at pages 6-8 of the subject specification.

In the Interview Summary dated February 3, 2005, referring to the Example in the subject specification, the Examiner notes that the specification does not provide the sequences of the target and primer oligonucleotides defined as SEQ ID NO:1 and SEQ ID NO:2 in WO-A-99/05315. The applicant respectfully submits that this is irrelevant to the written description of the invention defined by the claims. An applicant's disclosure obligation varies according to the art to which the invention pertains. The claims of the subject application are not drawn to any polynucleotide *per se*, such as a novel gene, but rather to methods for sequencing a polynucleotide and a sensor chip comprising an immobilized helicase enzyme and/or primase enzyme. Thus, there is no need for the applicant to demonstrate possession of any specific polynucleotide. One of ordinary skill in the art would recognize that the nucleic acid sequences of the target polynucleotide and selected primer are not features that are critical to determine whether the applicant was in possession of the claimed

invention. For example, there is no reason or evidence of record to suggest that one of ordinary skill in the art could not predict the operability of the sequencing method of the invention using any target polynucleotide. The term "polynucleotide" is defined at page 2, lines 26-28, of the subject specification. Thus, one of ordinary skill in the art would conclude that the applicant was in possession of the necessary common attributes possessed by the members of the recited genus of target polynucleotides.

An adequate written description of the invention may be shown by any description of sufficient, relevant, identifying characteristics so long as a person skilled in the art would recognize that the inventor had possession of the claimed invention. Information that is well known in the art need not be described in detail in the specification. The description need only describe in detail that which is new or not conventional. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384; 231 USPQ 81, 94 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987). The applicant's specification teaches a method for sequencing a polynucleotide by analyzing the conformational or kinetic interaction between a helicase or polymerase enzyme and a target polynucleotide, which is achieved by monitoring the changes in, or absorption of, electromagnetic or other radiation that occurs if the reaction proceeds (see page 2, lines 21-25, of the subject specification). Many helicases and primases are known in the art, as are methods for their isolation. Methods for monitoring changes in, or absorption, of radiation, such as SPR and nuclear magnetic resonance (NMR) are well known in the art. The applicant's invention is based on a novel and non-obvious combination of well known materials and conventional techniques.

The subject specification provides relevant identifying characteristics sufficient to describe the claimed invention in such full, clear, concise, and exact terms that one of ordinary skill in the art would recognize that the applicant was in possession of the claimed invention. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph, is respectfully requested.

Claims 7-22 have been rejected under 35 U.S.C. §112, first paragraph, as non-enabled. The applicant respectfully submits that the invention as currently claimed is reasonably enabled by the specification.

Given the teachings of the subject specification, and the knowledge of those skilled in the art, one of ordinary skill in the art would be able to make and use the invention without undue experimentation. The fact that a material or technique that may be utilized to carry out the invention (such as SPR spectroscopy) was described in a previous publication (such as WO-A-99/05315) that was not incorporated by reference does not negate the enablement of the pending claims. In order to make a rejection based on non-enablement, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, F.2d 1557, 1562; 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). This the Examiner has not done. The mere fact that materials and methods cited in a patent application are not incorporated by reference does not shift the burden to the applicant to show that the patent application contains an enabling disclosure.

To the extent they are applicable to the instant rejection under 35 U.S.C. §112, first paragraph, for lack of enablement, the applicant's foregoing remarks in response to the rejection for lack of written description are incorporated herein by reference in their entirety. The subject matter disclosed in WO-A-99/05315 is not critical or essential to making or using the claimed invention. A feature which is taught as critical in a specification and is not recited in the claims should result in a rejection of such claim under the enablement provision section of 35 U.S.C. §112. See *In re Mayhew*, 527 F.2d 1229, 1233; 188 USPQ 356, 358 (CCPA 1976). In determining whether an unclaimed feature is critical, the entire disclosure must be considered. Features which are merely preferred are not to be considered critical. *In re Goffe*, 542 F.2d 564, 567; 191 USPQ 429, 431 (CCPA 1976).

Limiting an applicant to the preferred materials in the absence of limiting prior art would not serve the constitutional purpose of promoting the progress in the useful arts. The applicant's specification teaches a method for sequencing a polynucleotide by analyzing the conformational or kinetic interaction between a helicase or polymerase enzyme and a target polynucleotide, which is achieved by monitoring the changes in, or absorption of, electromagnetic or other radiation that occurs if the reaction proceeds (see page 2, lines 21-25, of the subject specification). Many helicases and primases are known in the art, as are methods for their isolation. Methods for monitoring changes in, or absorption, of radiation, such as SPR and nuclear magnetic resonance (NMR) are well

known in the art. The applicant's invention is based on a novel and non-obvious combination of well known materials and conventional techniques.

At page 7, lines 26-28, the subject specification indicates that the DNA sequencing in the Example was conducted by the method described in WO-A-99/05315, which is of record, using the apparatus shown there in Figure 1, but using only one focusing assembly for pulsing monochromatic light into the cell. Figure 1 of WO-A-99/05315 is a schematic illustration of polynucleotide sequence analysis using surface plasmon resonance (SPR) spectroscopy and a polymerase enzyme, and shows an SPR sensing system and fluidic cell (see page 14, lines 23-27, and page 15, lines 1-17, of WO-A-99/05315). Again, further description of the exemplified sequencing method is provided in the subsequent paragraphs of pages 7 and 8 of the subject specification. Step (ii) of claims 7, 14, and 22 of the subject application recites detecting the interaction between the enzyme and the nucleotide on the polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, radiation that occurs during the interaction. As indicated at page 1, lines 28-33, and page 4, lines 16-21, of the subject specification, SPR is one technique by which a change in radiation or absorption of radiation can be measured. Experimental set ups for SPR, including SPR sensing systems and fluidic cells are well known in the art. Any modifications to established procedures that were made by the applicant are clearly described in the Example at pages 6-8 of the subject specification.

In the Interview Summary, the Examiner notes that the specification does not provide the sequences of the target and primer oligonucleotides defined as SEQ ID NO:1 and SEQ ID NO:2 in WO-A-99/05315. The applicant respectfully submits that this is irrelevant to the enablement of the invention defined by the claims. An applicant's disclosure obligation varies according to the art to which the invention pertains. The claims of the subject application are not drawn to any polynucleotide *per se*, such as a novel gene, but rather to methods for sequencing a polynucleotide and a sensor chip comprising an immobilized helicase enzyme and/or primase enzyme. Thus, there is no need for the applicant to identify the exemplified target polynucleotide. There is no reason or evidence of record to suggest that one of ordinary skill in the art would doubt the operability of the sequencing method of the invention using any embodiment of target polynucleotide. No undue experimentation would be required.

The reaction conditions and necessary starting materials to make and use the subject invention are disclosed in the application, including the Example at pages 6-8 of the specification. Furthermore, it has been held that even if the practice of a method requires a particular apparatus, the application must provide a sufficient disclosure of the apparatus if the apparatus is not readily available. *In re Ghiron*, 442 F.2d 985, 991; 169 USPQ 723, 727 (CCPA 1971). The same can be said if certain chemicals are required to make a compound or practice a chemical process. *In re Howarth*, 654 F.2d 103, 105, 210 USPQ 689, 691 (CCPA 1981) and MPEP 2164.01(b). Research grade sensor chips, such as the carboxymethylated sensor chip CM5 (Biacore® International AB, Switzerland) cited at page 7, line 4 of the specification, reagents for protein immobilization, such as amine coupling reagents, and SPR apparatus, were commercially available at the time the application was filed.

> It is well settled that the disclosure of an application embraces not only what is expressly set forth in words or drawings, but what would be understood by persons skilled in the art. As was said in *Webster Loom Co. v. Higgins et al.*, ...the applicant 'may begin at the point where his invention begins, and describe what he has made that is new and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings'. *In re Howarth*, 210 USPQ 689, 692 (C.C.P.A. 1981) (emphasis added).

In the Example, page 6, lines 21-22 of the specification indicate that a modified BIAcore 2000 system was utilized, along with a CM5 research grade sensor chip (BIAcore AB, Uppsala, Sweden) as the optical sensor surface. As indicated above, the BIAcore 2000 system and the CM5 sensor chip were commercially available at the time the application was filed (see pages 9 and 14 of the BIAcore 2005 Catalog). Methods for making and using a sensing surface (such as a CM5 sensor chip) with an immobilized ligand and SPR equipment to monitor biomolecular interactions were known at the time the application was filed. For example, see page 1, lines 11-33, and pages 2-3, of WO 90/05303. Again, the subject invention is based on the realization that the measurement of radiation can be used to detect a conformational and/or mass change in a helicase and/or primase that occurs when these proteins unwind double-stranded DNA into single-stranded DNA.

Page 6, lines 21-34, and page 7, lines 1-24, of the specification describe materials and methods used for carrying out the exemplified DNA sequencing that is described in detail at page 7, lines 25-34, and page 8, lines 1-15, of the subject specification. At page 6, lines 26-27, the subject

specification cites the Bird *et al.* publication for purification of PcrA helicase using hydrophobic interaction chromatography on heparin-Sepharose. As taught at page 2, lines 29-33, and page 3, lines 1-34, of the subject specification, helicases and methods for their isolation have been known for over twenty years and PcrA helicase is but one example that may be used in the invention.

At page 6, lines 33-34, the subject specification cites the Jonsson *et al.* publication for the general method utilized to immobilize helicase to a sensor chip. Details regarding the immobilization of the helicase enzyme on the chip, including the volumes and concentrations of reactants that were utilized, are provided at page 7, lines 1-10, of the subject specification. Advantages of immobilization are described at page 5, lines 1-16, of the specification; however, as indicated at page 5, lines 1-2, immobilization is not essential to the sequencing method of the invention. As taught by the subject specification, enzyme immobilization may be carried out using standard procedures known in the art, such as amine coupling procedures (see page 5, lines 18-24, of the specification). However, other techniques may be used to immobilize the enzyme, such as those disclosed in EP-A-0589867 and the Lofas *et al.* publication. Thus, the subject specification provides a description of the immobilized enzyme, and methods for sequencing a polynucleotide using the immobilized enzyme, enabling a person of ordinary skill in the art to carry out the invention without resort to undue experimentation.

Not everything necessary to practice the invention need be explicitly disclosed in the application. *In re Buchner*, 929 F.2d 660, 661; 18 USPQ2d 1331, 1332 (Fed. Cir. 1991) and MPEP 2164.08. All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art. As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. §112 is satisfied. *In re Fisher*, 427 F.2d 833, 839; 166 USPQ 18, 24 (CCPA 1970). Failure to disclose other methods by which the claimed invention may be made does not render a claim invalid under 35 U.S.C. §112. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1533, 3 USPQ2d 1737, 1743 (Fed. Cir.), cert. denied, 484 U.S. 954 (1987) and MPEP 2164.01(b). The specification need not even contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice

it without an undue amount of experimentation. *In re Borkowski*, 422 F.2d 904, 908; 164 USPQ 642, 645 (CCPA 1970) and MPEP 2164.02.

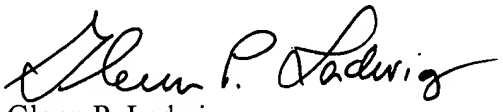
The applicant respectfully submits that the subject specification enables one of ordinary skill in the art how to make and use the invention without resort to undue experimentation. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph, is respectfully requested.

In view of the foregoing remarks, the applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

The applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



Glenn P. Ladwig
Patent Attorney
Registration No. 46,853
Phone No.: 352-375-8100
Fax No.: 352-372-5800
Address: Saliwanchik, Lloyd & Saliwanchik
A Professional Association
P.O. Box 142950
Gainesville, FL 32614-2950

GPL/mv
Attachments: Petition and Fee for Extension of Time
Supplemental Information Disclosure Statement, including form PTO/SB/08